

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	nAPP2310024728
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Justin Warren Title: Vice President of Operations

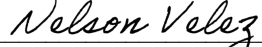
Signature:  Date: 7/10/2023

email: jwarren@hpcnm.com Telephone: 575-703-3918

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 08/04/2023

Printed Name: Nelson Velez Title: Environmental Specialist – Adv

Harvard Petroleum Company, LLC

3737 Buffalo Speedway, Suite 1600

Houston, Texas 77098

Phone Number: 575-703-3918

Authorized Representative: Justin Warren

Incident Number: nAPP2310024728

Harvard Petroleum – Tom Cat 16 State Facility

Oil & Produced Water Spill Clean Up

Lea County, New Mexico

Latitude: N 32.299038°

Longitude: W 103.685944°

Tom Cat 16 State Facility – Remediation & Delineation Report

2023

Client Name: Harvard Petroleum Company, LLC
 Inspector Name: Kevin Robinson

Facility: Tom Cat 16 State Facility
 Date: July 3, 2023

Facility and Production Well Demographics with Site Inspection

Water District #2	UNIT LETTER	SECTION	TOWNSHIP	RANGE	COUNTY
Roswell, NM	H	16	23S	32E	LEA
LOCATION AND ACCESS TO FACILITY – SECTION 1					
	Responsible Party:		Harvard Petroleum Company, LLC		
	Land Owner:		Unknown		
	GPS coordinate of oil & chloride spill:		N 32.299038°		
	GPS coordinate of oil & chloride spill:		W 103.685944°		
	Facility GPS coordinate production well Tom Cat 16, State #2:		N 32.299150°		
	Facility GPS coordinate production well Tom Cat 16, State #2:		W 103.686034°		
	Driving directions from nearest city to spill:		Jal, New Mexico: From the intersection of HWY 128 and HWY 18 in Jal, NM, travel west by NW 31 miles on HWY 128. From entrance exit right, and proceed NE on lease road for approximately 3.8 miles, turn left and travel due north 1.8 miles to tank battery.		
	Spill physical location from Highway 128:		The spill is located 4.6 miles from the center of Highway 128 to production facility.		
	County, State:		Lea County, New Mexico		
	Type of facility or site description:		Onshore oil and natural gas production well.		
	What is the main access road to facility?		Highway 128		
	Where is the closest marked intersection?		Highway 206 and Highway 18		
	What is the composition of lease road?		Earthen Material & Caliche		
	What is the condition of lease road?		Fair		
	Is there a gate at the entrance?		No		
	Is the gate open or locked?		N/A		
	If locked, key or combination; list #		N/A		
	Gate Entrance GPS Latitude:		N 32.240786°		
	Gate Entrance GPS Longitude:		W 103.725189°		
	Is there signage at the gate or entrance?		No		
	What is the condition of the signage?		N/A		
	Facility Elevation:		4065'		
	How was the spill caused?		Flow line break from the gun-barrel to the storage tanks; oil spray spread over area to the north due to high winds.		

Tom Cat 16 State Facility – Remediation & Delineation Report

2023

	Spill area description:	The spill area is approximately 95-feet long and 54-feet wide.
	Adjacent land to this facility is used for:	Open Land & Oil Production
	The terrain for this facility is:	Flat to Moderate
	Spillage direction of flow:	South
	Are there ANY water sources visible from the facility?	Yes; Water well located 2,058-feet southwest of the spill area.
	LOCATION AND FACILITY NOTES:	None

SPILL AND SITE INFORMATION – SECTION 2

Spill Site Description

Provided below is the satellite image of the Tom Cat 16 battery located in Eddy County New Mexico. The spill area measured approximately 95-feet long and 54-feet wide and was a surface only spill, with all freestanding oil and produced water being removed after the initial spill; the spill area has been highlighted and labeled with test points. (See Example "A" Below)

Example A

Tom Cat 16 State Facility – Remediation & Delineation Report

2023

EXCAVATION & REMEDIATION – SECTION 3

Excavation & Testing

The spill area was dry and free of all surface liquids. Excavation began, and approximately 3 to 6 inches of contaminated soil was removed. All soil containing TPH and chlorides exceeding State of New Mexico OCD thresholds was excavated and hauled to Ace Land Farm in Lea County New Mexico. Field testing indicated that all test areas were below State of New Mexico thresholds for TPH and chloride and (8) samples were collected and delivered to Cardinal Laboratories in Hobbs, New Mexico. 40 yards of contaminated soil was hauled to Ace Land Farm for disposal.

Certified soil analysis concluded that further excavation was required in (3) sections of the spill area. Excavation continued and approximately 6-9 inches of contaminated soil was removed and hauled to Ace Land Farm. (2) soil samples were collected and delivered to Cardinal Laboratories in Hobbs, New Mexico for testing. Soil analysis determined that all test points within the spill area contained soil with TPH and chloride below State of New Mexico thresholds. 20 additional yards of contaminated soil was hauled to Ace Land Farm for disposal.

XSOIL TESTING – SECTION 4

Certified Soil Analysis & Testing

Table 1
Confirmation of Certified Analytical Results

SAMPLE ID	DATE	Depth	TPH C6-C36 (mg/kg)	GRO C6-C10 (mg/kg)	DRO C10- C28 (mg/kg)	GRO + DRO C6-C28 (mg/kg)	EXT DRO C28-C36 (mg/kg)	Chloride (mg/kg)	BTEX (mg/kg)	Benzene (mg/kg)
TC-1-3-6	6-5-23	0 – 6"	<10.0	<10.0	<10.0	<10.0	<10.0	48	<0.300	<0.050
TC-2-3-6	6-5-23	0 – 6"	95.3	<10.0	80.9	80.9	14.4	528	<0.300	<0.050
TC-3-3-6	6-5-23	0 – 6"	16.5	<10.0	16.5	16.5	<10.0	832	<0.300	<0.050
TC-4-3-6	6-5-23	0 – 6"	932	<10.0	743	743	189	672	<0.300	<0.050
TC-5-3-6	6-5-23	0 – 6"	<10.0	<10.0	<10.0	<10.0	<10.0	112	<0.300	<0.050
TC-6-3-6	6-5-23	0 – 6"	<10.0	<10.0	<10.0	<10.0	<10.0	32	<0.300	<0.050
TC-7-3-6	6-5-23	0 – 6"	20.6	<10.0	20.6	20.6	<10.0	416	<0.300	<0.050
TC-8-3-6	6-5-23	0 – 6"	272	<10.0	231	231	41	240	<0.300	<0.050
TC-3-6-9	6-26-23	0 – 9"	60.9	<10.0	60.9	60.9	<10.0	384	<0.300	<0.050
TC-4-6-9	6-26-23	0 – 9"	71	<10.0	59.5	59.5	11.5	240	<0.300	<0.050
TC-8-6-9	6-26-23	0 – 9"	85.1	<10.0	66.5	66.5	18.6	304	<0.300	<0.050

Tom Cat 16 State Facility – Remediation & Delineation Report

2023

BACKFILL AND CLEAN UP – SECTION 5

Backfill and Cleanup:

60 yards of native soil was transported to former spill site and used for backfill. The excavated area was backfilled and leveled to resemble the area prior to the spill. No excess native soil was stockpiled and no contaminated soil was left on site after remediation.

TOM CAT 16-2 REMEDIATION PHOTOS

SPILL PHOTO #1 – Before Remediation:



Tom Cat 16 State Facility – Remediation & Delineation Report**2023****SPILL PHOTO #2 – Before Remediation:****REMEDIATION PHOTO #1:**

Tom Cat 16 State Facility – Remediation & Delineation Report**2023****FINAL REMEDIATION PHOTO #1:****FINAL REMEDIATION PHOTO #2:**

Tom Cat 16 State Facility – Remediation & Delineation Report**2023****Conclusion:**

- All heavy TPH and chloride contaminants exceeding State of New Mexico requirements established with the requirements of 19.15.29 NMAC, have been remediated.
- All contaminated soil excavated was not stored at the facility and was hauled to Gandy Marley, a licensed soil disposal for the State of New Mexico.
- No backfill caliche or gravel was left on site; all material delivered to the spill area was properly used for the project.
- No equipment was left on site; all trucks, backhoes, and loaders were picked up and removed.
- The flow-line oil spill has been repaired and the area remediated to (SLO) specifications.

Certified Lab Analysis:

- Attachment #1 & #2

Certified Lab Analysis:

Cardinal Laboratories
101 E. Maryland Street
Hobbs, New Mexico 88240
PH: 575-393-2326

Contaminated Soil Disposal

Lazy Ace Land Farm
Eunice, New Mexico
Danny Berry Owner
PH: 575-369-5266

Trucking (Caliche & Disposal)

Republic Backhoe service, LLC
47 E Dickens Road
Lovington, NM 88260
PH: 575-631-0131

Tom Cat 16 State Facility – Remediation & Delineation Report

2023

CONFIRMATION OF REMEDIATION COMPLETION

This site has been remediated using the standards and requirements established within the guidelines of the State of New Mexico Environmental Division as pursuant to the Conditional Reinstatement Lease Agreement.

All violations listed within the lease agreement have been remediated utilizing the soil thresholds established within *Table 1 of 19.15.29 NMAC*.

COMM Engineering is a licensed and registered environmental company working in conjunction with Harvard Petroleum Company, LLC whom is the agreed lease owner of oil and gas production sites listed within the SLO as the agreed company of record.

This remediation record will be kept at the office for a minimum of five (5) years.

Remediation and delineation completed on July 3, 2023.

Inspected, sampled, surveyed, and remediation performed by:



Signature

Kevin L. Robinson, CESCO, ESP-E, FLIR1, NORM CERTIFIED
Field Inspector



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 08, 2023

KEVIN ROBINSON

COMM ENGINEERING

1319 W. PINHOOK, SUITE 400

LAFAYETTE, LA 70503

RE: TOM CAT 52

Enclosed are the results of analyses for samples received by the laboratory on 06/05/23 9:03.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/05/2023
 Reported: 06/08/2023
 Project Name: TOM CAT 52
 Project Number: NOT GIVEN
 Project Location: EUNICE NM

Sampling Date: 06/04/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 1 - 3 - 6 (H232821-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/06/2023	ND	1.91	95.3	2.00	19.3	
Toluene*	<0.050	0.050	06/06/2023	ND	1.96	98.2	2.00	19.4	
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.04	102	2.00	18.8	
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.02	100	6.00	19.2	
Total BTX	<0.300	0.300	06/06/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2023	ND	191	95.4	200	8.18	
DRO >C10-C28*	<10.0	10.0	06/05/2023	ND	183	91.4	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	06/05/2023	ND					

Surrogate: 1-Chlorooctane 96.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/05/2023
 Reported: 06/08/2023
 Project Name: TOM CAT 52
 Project Number: NOT GIVEN
 Project Location: EUNICE NM

Sampling Date: 06/04/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 2 - 3 - 6 (H232821-02)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/06/2023	ND	1.91	95.3	2.00	19.3	
Toluene*	<0.050	0.050	06/06/2023	ND	1.96	98.2	2.00	19.4	
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.04	102	2.00	18.8	
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.02	100	6.00	19.2	
Total BTX	<0.300	0.300	06/06/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	06/06/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2023	ND	191	95.4	200	8.18	
DRO >C10-C28*	80.9	10.0	06/05/2023	ND	183	91.4	200	4.11	
EXT DRO >C28-C36	14.4	10.0	06/05/2023	ND					

Surrogate: 1-Chlorooctane 73.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.4 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/05/2023
 Reported: 06/08/2023
 Project Name: TOM CAT 52
 Project Number: NOT GIVEN
 Project Location: EUNICE NM

Sampling Date: 06/04/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 3 - 3 - 6 (H232821-03)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/06/2023	ND	1.91	95.3	2.00	19.3		
Toluene*	<0.050	0.050	06/06/2023	ND	1.96	98.2	2.00	19.4		
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.04	102	2.00	18.8		
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.02	100	6.00	19.2		
Total BTEx	<0.300	0.300	06/06/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	832	16.0	06/06/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2023	ND	191	95.4	200	8.18	
DRO >C10-C28*	16.5	10.0	06/05/2023	ND	183	91.4	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	06/05/2023	ND					

Surrogate: 1-Chlorooctane 83.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.0 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/05/2023
 Reported: 06/08/2023
 Project Name: TOM CAT 52
 Project Number: NOT GIVEN
 Project Location: EUNICE NM

Sampling Date: 06/04/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 4 - 3 - 6 (H232821-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/06/2023	ND	1.91	95.3	2.00	19.3	
Toluene*	<0.050	0.050	06/06/2023	ND	1.96	98.2	2.00	19.4	
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.04	102	2.00	18.8	
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.02	100	6.00	19.2	
Total BTEx	<0.300	0.300	06/06/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	06/06/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2023	ND	191	95.4	200	8.18	
DRO >C10-C28*	743	10.0	06/05/2023	ND	183	91.4	200	4.11	
EXT DRO >C28-C36	189	10.0	06/05/2023	ND					

Surrogate: 1-Chlorooctane 77.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.8 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/05/2023
 Reported: 06/08/2023
 Project Name: TOM CAT 52
 Project Number: NOT GIVEN
 Project Location: EUNICE NM

Sampling Date: 06/04/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 5 - 3 - 6 (H232821-05)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/06/2023	ND	1.91	95.3	2.00	19.3		
Toluene*	<0.050	0.050	06/06/2023	ND	1.96	98.2	2.00	19.4		
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.04	102	2.00	18.8		
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.02	100	6.00	19.2		
Total BTEx	<0.300	0.300	06/06/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	06/06/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2023	ND	191	95.4	200	8.18	
DRO >C10-C28*	<10.0	10.0	06/05/2023	ND	183	91.4	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	06/05/2023	ND					

Surrogate: 1-Chlorooctane 81.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.2 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/05/2023
 Reported: 06/08/2023
 Project Name: TOM CAT 52
 Project Number: NOT GIVEN
 Project Location: EUNICE NM

Sampling Date: 06/04/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 6 - 3 - 6 (H232821-06)

BTX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/06/2023	ND	1.79	89.6	2.00	7.19		
Toluene*	<0.050	0.050	06/06/2023	ND	1.84	91.9	2.00	2.75		
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	1.90	94.9	2.00	3.55		
Total Xylenes*	<0.150	0.150	06/06/2023	ND	5.63	93.9	6.00	3.30		
Total BTX	<0.300	0.300	06/06/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/06/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2023	ND	191	95.4	200	8.18	
DRO >C10-C28*	<10.0	10.0	06/05/2023	ND	183	91.4	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	06/05/2023	ND					

Surrogate: 1-Chlorooctane 76.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/05/2023
 Reported: 06/08/2023
 Project Name: TOM CAT 52
 Project Number: NOT GIVEN
 Project Location: EUNICE NM

Sampling Date: 06/04/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 7 - 3 - 6 (H232821-07)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/06/2023	ND	1.79	89.6	2.00	7.19		
Toluene*	<0.050	0.050	06/06/2023	ND	1.84	91.9	2.00	2.75		
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	1.90	94.9	2.00	3.55		
Total Xylenes*	<0.150	0.150	06/06/2023	ND	5.63	93.9	6.00	3.30		
Total BTEX	<0.300	0.300	06/06/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	06/06/2023	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2023	ND	191	95.4	200	8.18	
DRO >C10-C28*	20.6	10.0	06/05/2023	ND	183	91.4	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	06/05/2023	ND					

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/05/2023
 Reported: 06/08/2023
 Project Name: TOM CAT 52
 Project Number: NOT GIVEN
 Project Location: EUNICE NM

Sampling Date: 06/04/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 8 - 3 - 6 (H232821-08)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/06/2023	ND	1.79	89.6	2.00	7.19		
Toluene*	<0.050	0.050	06/06/2023	ND	1.84	91.9	2.00	2.75		
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	1.90	94.9	2.00	3.55		
Total Xylenes*	<0.150	0.150	06/06/2023	ND	5.63	93.9	6.00	3.30		
Total BTEX	<0.300	0.300	06/06/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	06/06/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2023	ND	191	95.4	200	8.18	
DRO >C10-C28*	231	10.0	06/05/2023	ND	183	91.4	200	4.11	
EXT DRO >C28-C36	41.0	10.0	06/05/2023	ND					

Surrogate: 1-Chlorooctane 79.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Comm Engineering</u>		BILL TO		ANALYSIS REQUEST																	
Project Manager: <u>Kevin Robinson</u>		P.O. #:		<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> TPH, Chloride, Brep for 2 </div>																	
Address: <u>1319 W. Pinhook</u>		Company:																			
City: <u>Chico, CA</u> State: <u>CA</u> Zip:		Attn:																			
Phone #: _____ Fax #: _____		Address:																			
Project #: _____ Project Owner:		City:																			
Project Name: <u>Tomcat SZ</u>		State: _____ Zip: _____																			
Project Location:		Phone #: _____																			
Sampler Name: <u>K. Robinson</u>		Fax #: _____																			
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING													
Lab I.D.	Sample I.D.	GRAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME							
<u>4232821</u>													<u>6/4/23</u>	<u>1015</u>							
<u>1</u>	<u>TC-1-3-6</u>					X															
<u>2</u>	<u>TC-2-3-6</u>					X															
<u>3</u>	<u>TC-3-3-6</u>					X															
<u>4</u>	<u>TC-4-3-6</u>					X															
<u>5</u>	<u>TC-5-3-6</u>					X															
<u>6</u>	<u>TC-6-3-6</u>					X															
<u>7</u>	<u>TC-7-3-6</u>					X															
<u>8</u>	<u>TC-8-3-6</u>					X															

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Relinquished By: <u>K. Robinson</u>	Date: <u>6/5/23</u>	Received By: <u>Tamara Stedje</u>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Time: <u>903 A</u>	Received By:	All Results are emailed. Please provide Email address:
Delivered By: (Circle One)	Observed Temp. °C <u>59</u>	Sample Condition	REMARKS:
Sampler - UPS - Bus - Other:	Corrected Temp. °C <u>5.3</u>	<input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush
FORM-006 R 3.3 07/18/22	CHECKED BY: (Initials) <u>TO</u>	Thermometer ID #113	Bacteria (only) Sample Condition
		Correction Factor -0.6°C	<input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
			Observed Temp. °C
			Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 26, 2023

KEVIN ROBINSON

COMM ENGINEERING

1319 W. PINHOOK, SUITE 400

LAFAYETTE, LA 70503

RE: TOM CAT

Enclosed are the results of analyses for samples received by the laboratory on 06/20/23 10:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/20/2023
 Reported: 06/26/2023
 Project Name: TOM CAT
 Project Number: NOT GIVEN
 Project Location: EAST OF CARLSBAD NM

Sampling Date: 06/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 3 - 6 - 9 (H233180-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/22/2023	ND	2.17	109	2.00	2.83	
Toluene*	<0.050	0.050	06/22/2023	ND	2.14	107	2.00	2.56	
Ethylbenzene*	<0.050	0.050	06/22/2023	ND	2.10	105	2.00	2.97	
Total Xylenes*	<0.150	0.150	06/22/2023	ND	6.39	106	6.00	3.28	
Total BTX	<0.300	0.300	06/22/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	06/21/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/21/2023	ND	172	86.1	200	0.174	
DRO >C10-C28*	60.9	10.0	06/21/2023	ND	174	87.1	200	0.969	
EXT DRO >C28-C36	<10.0	10.0	06/21/2023	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/20/2023
 Reported: 06/26/2023
 Project Name: TOM CAT
 Project Number: NOT GIVEN
 Project Location: EAST OF CARLSBAD NM

Sampling Date: 06/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 4 - 6 -9 (H233180-02)

BTEx 8021B			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/22/2023	ND	2.17	109	2.00	2.83		
Toluene*	<0.050	0.050	06/22/2023	ND	2.14	107	2.00	2.56		
Ethylbenzene*	<0.050	0.050	06/22/2023	ND	2.10	105	2.00	2.97		
Total Xylenes*	<0.150	0.150	06/22/2023	ND	6.39	106	6.00	3.28		
Total BTEX	<0.300	0.300	06/22/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	06/21/2023	ND	400	100	400	3.92		

TPH 8015M			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/21/2023	ND	172	86.1	200	0.174		
DRO >C10-C28*	59.5	10.0	06/21/2023	ND	174	87.1	200	0.969		
EXT DRO >C28-C36	11.5	10.0	06/21/2023	ND						

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

COMM ENGINEERING
 KEVIN ROBINSON
 1319 W. PINHOOK, SUITE 400
 LAFAYETTE LA, 70503
 Fax To:

Received: 06/20/2023
 Reported: 06/26/2023
 Project Name: TOM CAT
 Project Number: NOT GIVEN
 Project Location: EAST OF CARLSBAD NM

Sampling Date: 06/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: TC - 8 - 6 - 9 (H233180-03)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/22/2023	ND	2.17	109	2.00	2.83	
Toluene*	<0.050	0.050	06/22/2023	ND	2.14	107	2.00	2.56	
Ethylbenzene*	<0.050	0.050	06/22/2023	ND	2.10	105	2.00	2.97	
Total Xylenes*	<0.150	0.150	06/22/2023	ND	6.39	106	6.00	3.28	
Total BTX	<0.300	0.300	06/22/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	06/21/2023	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/21/2023	ND	172	86.1	200	0.174	
DRO >C10-C28*	66.5	10.0	06/21/2023	ND	174	87.1	200	0.969	
EXT DRO >C28-C36	18.6	10.0	06/21/2023	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CARDINAL
Laboratories

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 6 of 6

Company Name: COMM ENGINEERING Project Manager: K. Robinson Address: 1319 W. Anhuak St 400 City: LA Fayette State: LA Zip: 70503 Phone #: 408 820-2069 Fax #: Project #: Project Name: Tom Cat Project Location: EAST of Carlsbad, NM Sampler Name: K. Robinson				BILL TO P.O. #: Company: Sumo Attn: Address: City: State: Zip: Phone #: Fax #:				ANALYSIS REQUEST													
FOR LAB USE ONLY Lab I.D. Sample I.D.				(GRAB OR (C)OMP. # CONTAINERS	GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	MATRIX ACID/BASE: ICE / COOL OTHER:	PRESERV.	SAMPLING DATE TIME		TP14, Chloride, Benz, Benz											
H233180 1 TC-3-6-9 2 TC-4-6-9 3 TC-8-6-9				1 1 1	X X X	X X X	X X X	6-19-23 8:00AM 6-19-23 8:00AM 6-19-23 8:00AM		X X X											

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Relinquished By:		Date:	Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:	
16461msn		Time:	Time:		All Results are emailed. Please provide Email address:	
Relinquished By:		Date:	Received By:		REMARKS:	
		Time:				
Delivered By: (Circle One)		Observed Temp. °C	Sample Condition	CHECKED BY:	Turnaround Time:	Standard
Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		4.5	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	(Initials)	Rush <input checked="" type="checkbox"/>	Bacteria (only) Sample Condition
Sampler - UPS - Bus - Other:		Corrected Temp. °C	<input type="checkbox"/> Yes <input type="checkbox"/> No	YO	Thermometer ID #113	Cool <input type="checkbox"/> Intact <input type="checkbox"/>
		3.9	<input type="checkbox"/> Yes <input type="checkbox"/> No		Correction Factor -0.6°C	<input type="checkbox"/> Yes <input type="checkbox"/> No
						<input type="checkbox"/> No <input type="checkbox"/> No
						Observed Temp. °C
						Corrected Temp. °C

FORM-006 R 3.3 07/18/22

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 238175

CONDITIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 238175
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	8/4/2023